

## CLAIMS

What is claimed is:

1. A system for generating a ROM image comprising at least one data image build, the system comprising:

- 5       an image identifier configured to process an input file to identify at least one data image for a ROM image build and to generate a token file comprising at least one token for the data image;
- a data image builder configured to process the data image with its associated token file to create the data image build; and
- 10      a ROM image builder configured to generate a data image build validating signature, to write the data image build and the data image build validating signature to the ROM image, and to generate a ROM image validating signature.

2. The system of claim 1 wherein the ROM image builder is configured to align the data image using a fill pattern and an alignment value prior to validating the data image.

15     3. The system of claim 1 wherein the ROM image builder is configured to dynamically assign a starting address in the ROM image to the data image.

20     4. The system of claim 1 wherein a first data image is assigned a first memory location in the ROM image and wherein the ROM image builder is configured to dynamically reassign the first memory location to a second data image and to assign a new memory location to the first data image.

5. The system of claim 1 wherein the data image validating signature comprises at least one member of a group consisting of a checksum and a cyclic redundancy check.

6. A system for generating a ROM image comprising at least one data image build, the system comprising:

- 25     at least one image identifier configured to process an input file to generate a token file and a temporary token file, the token file and the temporary token file each representing tokens for each data image identified in the input file; and
- a ROM image builder configured to compare the token file with the temporary token file and, if the same, to generate a data image validating signature for each data image, to write each data image and each data image validating signature
- 30

to the ROM image, and, thereafter, to generate a separate ROM image validating signature for the ROM image.

7. The system of claim 6 wherein the at least one image identifier comprises a first image identifier configured to generate the token file and a second image identifier  
5 configured to generate the temporary token file.

8. The system of claim 6 wherein the ROM image builder is configured to align at least one data image using a fill pattern and an alignment value prior to validating the data image.

9. The system of claim 6 wherein the ROM image builder is configured to  
10 dynamically assign a starting address in the ROM image to at least one data image.

10. The system of claim 6 wherein a first data image is assigned a first memory location for the ROM image and wherein the ROM image builder is configured to dynamically reassign the first memory location to a second data image and to assign a new memory location in the ROM image to the first data image.

15 11. The system of claim 6 wherein the ROM image builder is configured to mask at least one data image validating signature.

12. The system of claim 6 wherein the ROM image builder comprises a data image parameter processor configured to loop through each data image to compute a size of each data image, to align each data image, if necessary, and to generate a validating signature  
20 for each data image.

25 13. The system of claim 6 wherein the ROM image builder comprises an address conflict check processor configured to loop through each data image to determine if each data image conflicts with at least one member of a group consisting of a starting address of another data image, a validating signature location of another data image, an address location of another data image, and a size location of another data image.

14. The system of claim 6 wherein the ROM image builder comprises an address assignment processor configured to loop through each data image to dynamically assign a starting address in the ROM image to those data images that do not have the starting address.

15. The system of claim 14 wherein the address assignment processor is configured to iteratively check memory locations for an available starting address, to unassign a first memory location originally assigned to a first data image, to reassign the first memory location to a second data image, and to reassign the first data image to a second  
5 memory location.

16. The system of claim 6 wherein the ROM image builder comprises a data image writer configured to loop through each byte in the ROM image and, if a location of the byte in the ROM image being processed is the same as a parameter location of a selected data image, to write the parameter location to the byte in the ROM image being processed.

10 17. The system of claim 16 wherein the parameter location comprises at least one member of a group consisting of a validating signature location, a size location, a storage location at which a data image starting location is stored, and a starting location.

15 18. A system for generating a ROM image using inputs from an input file comprising:

a memory configured to store the ROM image;  
a ROM image generator configured to identify a plurality of data images to be placed in the ROM image based upon the inputs from the input file, to generate a data image validating signature for each data image with each associated input, to write each data image and data image validating signature to a starting address of the ROM image, at least one starting address being dynamically allocated, and, thereafter, to generate a ROM image validating signature for the ROM image; and

20 a processor configured to process the ROM image generator and to transmit data images with data image validating signatures and the ROM image validating signature to the memory for storage as the ROM image.

25 19. The system of claim 18 wherein the ROM image generator is configured to align at least one of the data images using a fill pattern and an alignment value prior to generating the data image validating signature for the at least one data image.

30 20. The system of claim 18 wherein a first data image is assigned a first memory location in the ROM image and wherein the ROM image generator is configured to

dynamically reassign the first memory location to a second data image and to assign a new memory location in the ROM image to the first data image.

21. The system of claim 18 further comprising a programming system  
configured to transfer the ROM image to at least one member of a group consisting of a  
5 ROM, a PROM, an EPROM, and an EEPROM.